

A Manufacturing
Improvement for Metals,
Glass, Compositions,
Rubber - Wood

Continuous
Feed Cabinet
and
Hose Type

High
and Low
Pressure

For Frosting,
Mat Finishing,
Cleaning Castings
Removing Scale

Leiman Bros.
Patented

**SAND
BLAST**

LEIMAN BROS., INC.

146 to 178
147 to 179 Christie St., Newark, N. J.
N. Y. CORP.—23 WALKER ST.

*Makers of Good Machinery
for 40 Years*

LEIMAN BROS.—PATENTED
—CONTINUOUS FEED

SAND BLAST

SAND BLAST OUTFITS COMPLETE WITH AIR SUPPLY

<p>CLEANING CASTINGS</p>	<p>LETTERING AND DESIGN ON GLASSWARE</p>	<p>CLEANING RUST AND CORROSION</p>	<p>DUSTLESS CABINET SANDBLAST</p>	<p>FROSTING GAS AND ELECTRIC FIXTURES</p>
<p>CLEANING SCALE FROM TOOLS</p>	<p>FASTER CHEAPER BETTER THAN THE SCRATCH BRUSH</p>		<p>HOSE SANDBLAST FOR BIG WORK</p>	<p>SAFER CLEANER SURER THAN THE ACID DIP</p>

Acid Dips and Scratch Brush Replaced!

Sand Blasting a Clean, Dry Process

Sand blasting is a process used for producing a mat, frosted or satin finish on all sorts of materials, principally brass, copper, aluminum, and similar metals, and also on hard rubber, fibre, celluloid, tortoise shell and compositions of various kinds.

Naturally, this takes in a wide variety of articles of manufacture, whether they be of machinery, articles of hardware, fittings of various kinds, articles of construction or adornment of buildings, jewelry, silverware, works of art or what not.

No line of manufacture is exempt from the possibility of improvement in the method of manufacture, in the finish, or the possible suggestion of new ideas once the sand blasting effects are seen.

Better Finishes Mean More Sales

An improvement in the appearance of the completed products means an increase of profit through more sales, resulting from better and more pleasing goods.

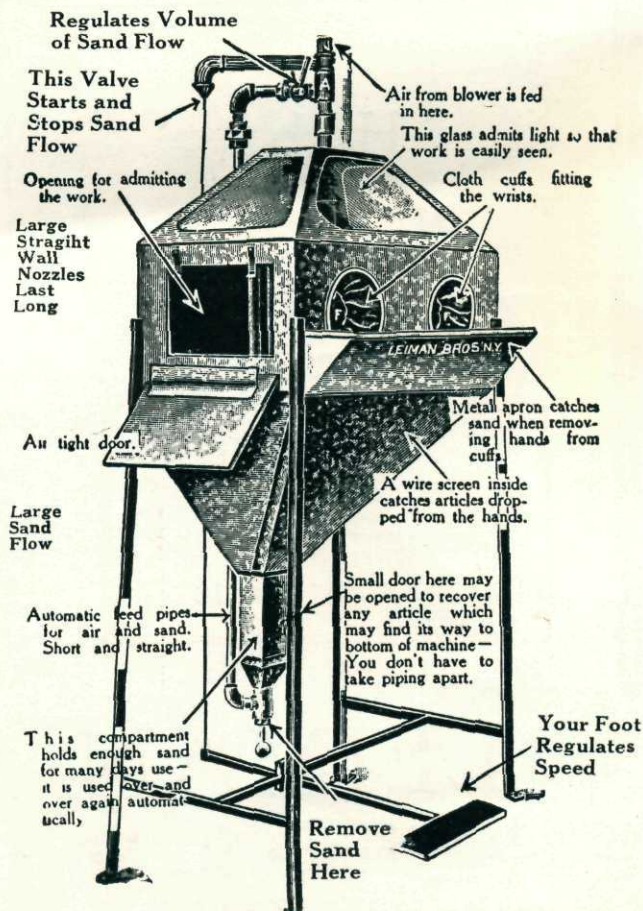
Any degree of finish may be procured, either very fine, medium or coarse as the case may demand, by simply using a corresponding grade of flint, crushed steel or other abrasive.

A pailful of abrasive material will last for many days of continuous work. We are prepared to furnish the various grades of granulated or powdered flint, or crushed steel in 100 lb. bags. (See page 3.)

Cleaning Castings and Moulds

In addition to mat finishing, sand blasting is used for cleaning moulding or casting sand from castings or patterns and other moulds, removing scale from articles which have been hardened, and removing rust and corrosion.

This results in easy machining and better finishes.



Stencils on Glass

Glass may be frosted, plain, in designs or any form of lettering—this applies also to other materials like stone, hard rubber, celluloid, fibre, bakelite, etc.

Stencils for this work are easily made by stencil makers—most rubber stamp manufacturers are engaged in stencil cutting work and will readily produce any sort of a plain or fancy stencil required.

They may be made of steel, brass, oiled card board, or any other material.

This process lends itself readily to the marking and decorating of glasses, goblets, bottles, electric light bulbs, mirrors, signs, window glass, etc.

Finishes Without Streaks or Variations

In using the sand blast, the same degree of finish may be procured uniformly at all times and from day to day.

This is impossible with other methods, including acid dips and scratch brushing, both of which require expert labor to secure results.

With the sand blasting process, the work cannot be spoiled or overdone because after the finish is procured nothing is to be gained by prolonging the process and no danger of spoiling the work except where the material is of such a nature as to buckle under the pressure of air.

Blackboards in colleges and schools are readily resurfaced and renovated by sand blasting.

Laboratory utensils are cleaned of rust and corrosion.

Quick, Durable Plating

Quicker, better and more enduring electro-plate results when a sand blasted surface is used because it gives the plate a foothold to which it can cling, hold onto and endure.

This surface preparation also applies to articles of every kind which are to be painted, sprayed, enameled, japanned, galvanized or rust-proofed.

Eliminates Acids and Scratch Brush

Sand blasting supersedes the scratch brush because the work is quicker, more uniform and more lasting.

It also does away with the use of dangerous acid dips making the work more agreeable and pleasant to the operator and insuring a surface free of streaks and blemishes.

Success at the First Try

It shows an additional saving because of the possibility of using unskilled labor while still insuring only the best results.

No experience or skill is required and the work cannot readily be spoiled—both important considerations.

It is, in short, a clean, dry process, improving the appearance or increasing the lasting qualities of other finishes.

Pleasant, safe and altogether a desirable process for practically all classes of manufactured articles no matter what their materials.

What the Sand Blast Does!

Produces a mat or satin finish on metals—frosts glass, cleans moulding sand from castings of brass, aluminum, etc.—prepares the surface of articles to be plated so that the plate takes hold quicker and lasts longer. Articles of all metals, celluloid, wood, glass, rubber and other materials may be sand blasted, including:

Gas and Electric Fixtures

Telephones

Carburetors

Jewelry

Cosmetic box and jar covers

Moulds

Phonographs

Combs and Hair Ornaments

Clocks and Watches

Speedometers

Thermometers

Drills and Cutters

Gears

Electric Bulbs

Lettering Bottles

Frosting Window Glass

Statuary

Automobile Hardware

Skates

Building Hardware

Die Castings

Silverware

Electrical Goods

Radio Parts

Medals

Musical Instruments

Scientific Instruments

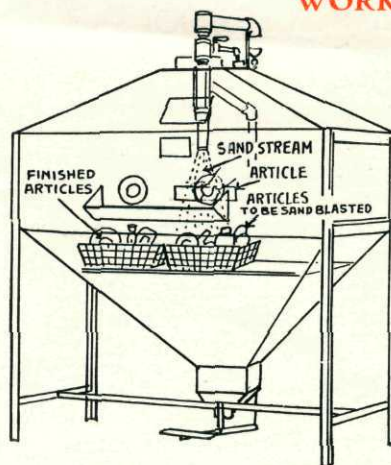
Cutlery

Novelties

Sand Blasting does not remove Burrs, File or Grinding marks; nor does it take the place of Grinding or Filing. IT DOES NOT POLISH.

Plating Takes Hold Quicker and Lasts Longer on a Sand Blast Surface

LARGE CABINETS FOR PRODUCTION WORK



The reason for the large Cabinets is not that the small Cabinets will not answer the purpose. The fact is they do. But they're slow. Everything is in proportion.

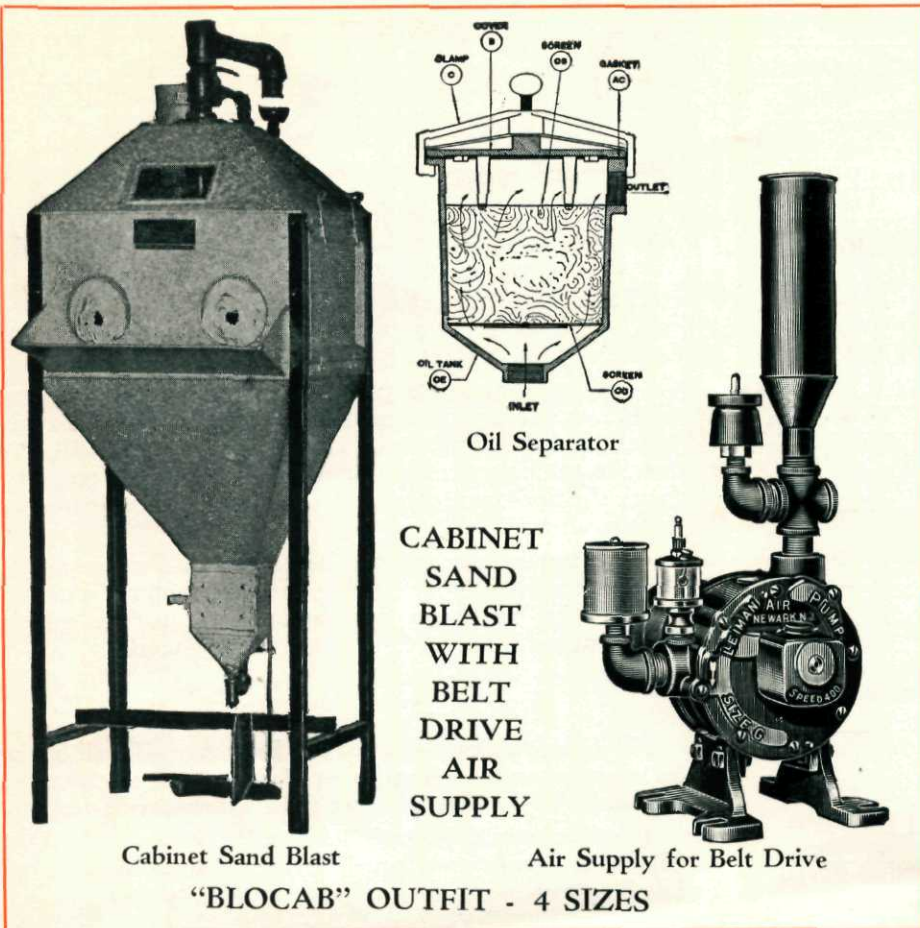
The large Cabinets are faster, hence should be selected for small work in quantities equally as well as for large work.

Small work placed in a basket or tray under the nozzle of the Cabinet receives the impact and spray of the sand as each preceding article is being actually held in the hand under the sand stream.

SEND SAMPLES For Sand Blasting

Samples may be sent to us with the following information for the proper selection of a sand blasting outfit.

1. Material of which goods are made.
2. Effect wanted.
3. Quantity to be done.
4. Size and weight of the largest piece of work.
5. Volts, cycles and phase of electric current.



▲

The Sand Blast Displaces Scratch Brushes and Acid Dips

▼

CAPACITIES, WEIGHTS AND MEASURES

SIZE	A1	B1	1	2
Cabinet Dimensions, Inches	24x60	30x36	18x24	10x12
Size of Doors, Inches	10 $\frac{1}{2}$ x20 (2 doors)	24x24 (2 doors)	9 $\frac{1}{2}$ x14 (2 doors)	4 $\frac{1}{2}$ x8 $\frac{1}{2}$ (1 door only)
Size of Air Supply Pulleys, Inches, L. & T.	16x3 $\frac{1}{2}$	16x3 $\frac{1}{2}$	12x3 $\frac{1}{2}$	7x2 $\frac{1}{2}$
Single Pulley on Air Supply for Motor Drive—Optional—Inches	30	30	22	14
H.P. Required	7 $\frac{1}{2}$	7 $\frac{1}{2}$	3	1 $\frac{1}{2}$
H.P. of Motor Supplied	7 $\frac{1}{2}$	7 $\frac{1}{2}$	3	1 $\frac{1}{2}$
Floor Space, Inches, Complete Outfit				
Shipping Weight, Lbs., " "				

PRICES

Cabinet Only	\$175	\$150	\$125	\$75
Cabinet Sand Blast with Belt Drive Air Supply and Oil Separator—Outfit "BLOCAB"	\$493	\$468	\$307	\$181
Cabinet Sand Blast with Motor V-Belt Drive Air Supply and Oil Separator—Outfit "MOCAB"	\$983	\$958	\$628	\$374
Complete Motor V-Belt Driven Cabinet Sand Blast Outfit "COMCABMO"	\$1085	\$1060	\$725	\$470
Oil Separator Only	\$20	\$20	\$20	\$15

Flint in 100 Lb. Bags \$6.00 Crushed Steel in 100 Lb. Bags \$10.00

DO YOU WANT AN AIR PUMP for Heating Homes and Factories with Fuel Oil—For Gas Furnaces

Agitating
Preheating
Brazing
Annealing
Soldering
Forging
Hardening
Oil Furnaces

Gas Furnaces
Suction Chucks
Vacuum Cleaning
Wrapping Machines
Laboratory Work
Blow Lamps
Blow Pipes
Gas Pumping

Pressing Irons
Steam Heating Systems
Paper Feeding Devices
Glass Bending
Printing Presses
Melting
Blowing Dirt from machines

Mailing Machines
Atomizing
Spraying
Blowing Chips and stampings from machines
Sand Blasting

And Many Kinds of Automatic Machines and Devices.

HERE'S A REAL LABOR SAVER

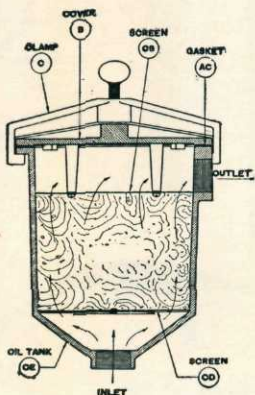
For Manufacturers of Goods in Metal, Glass, Celluloid, Rubber, Wood and other Materials.

LEIMAN BROS.

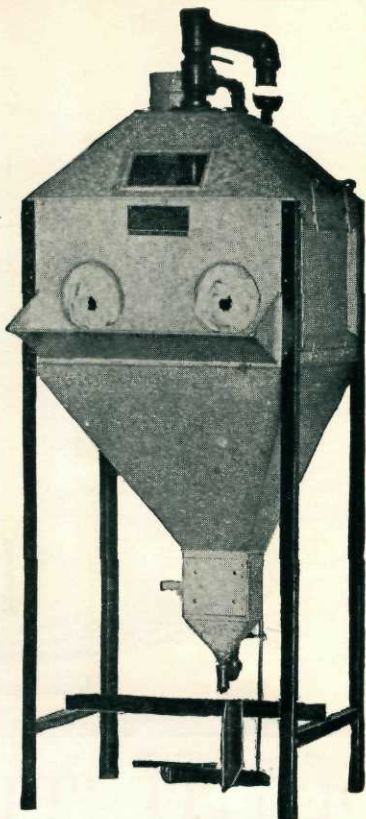
SAND BLAST

—PATENTED—
Full Instructions Furnished

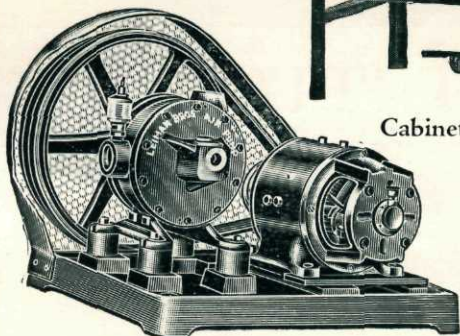
**CABINET
SAND BLAST
with V-BELT
MOTOR DRIVE
AIR SUPPLY**
"Mocab" Outfit—
4 Sizes



Oil Separator

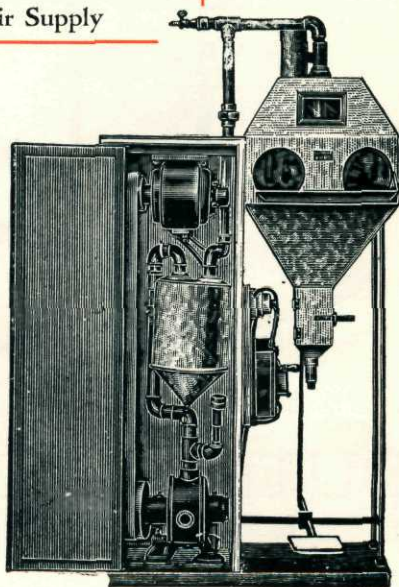


Cabinet Sand Blast



Motor Driven Air Supply

COMPLETE
V-BELT
MOTOR
DRIVE
CABINET
SAND BLAST
OUTFIT
"Comcabmox"



INDUSTRIAL LEADERS Selected at Random

Some of the Users

of Leiman Bros.
SAND BLASTS!

Angus & Coote, Ltd., Jewelry—Sydney, Australia
Waldes & Co., Jewelry—Prague, Bohemia
Wilt Twist Drill Co.—Walkerville, Canada
Artistic Bronze Co.—Bridgeport
Connecticut Web & Buckle Co.—Bridgeport
Remington Arms & Ammunition Co.—Bridgeport
Van Siken Co., Automobile Speed Meters—Aurora, Ill.
Cox Multi-Mailer Co., Mailing Machines—Chicago
Hausmann & Sons, Ltd., Jewelry—New Orleans
Standard Thermometer Co.—Boston
Cadillac Motor Car Co.—Detroit
Monarch Mfg. Co.—Detroit
Gutfreund-Arnold Jewelry Co.—St. Louis
Westinghouse Lamp Co., Elec. Lamps—E. Orange, N. J.
Diehl Mfg. Co., Electric Motors—Elizabeth, N. J.
Edison Lamp Works, Electric Lamps—Harrison, N. J.
General Elec. Co., Electrical Goods—Schenectady, N. Y.
Carter, Howe & Co., Jewelry—Newark, N. J.
Ingersoll-Rand Co., Machinery—Phillipsburg, N. J.
A. Schrader's Son, Inc., Brass Goods—Brooklyn, N. Y.
General Optical Co., Jewelry—New York City
Sier-Bath Co., Automobile Goods—New York City
Taylor Instruments Co., Thermometers—Rochester, N. Y.
Savage Arms Co.—Utica, N. Y.
Sumter Electric Co., Magnetos—Sumter, S. C.
Splitdorf Electric Co., Magnetos—Newark, N. J.
Koscherak Bros., Bottles and Syphons—New York City
Wm. Sheer, Manufacturing Jeweler—New York City

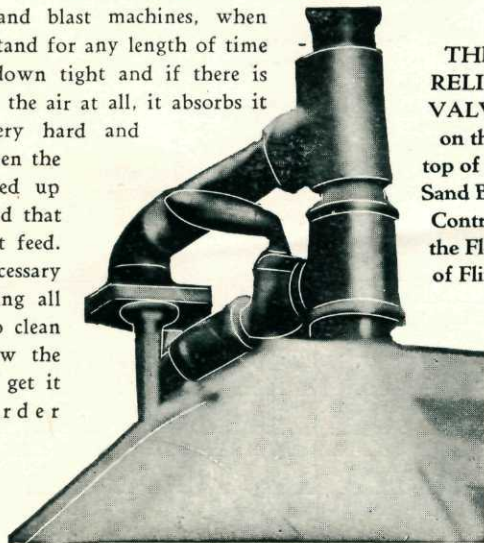
Polachek & Bro. Co., Gas and Elec. Fixtures—Milwaukee, Wis.
A. H. DeBache & Co., Bottles and Syphons—Havana, Cuba
University of Wisconsin, School of Mines and Metallurgy—Madison, Wis.
Los Angeles Gas & Elec. Fix. Co., Gas and Elec. Fix.—Los Angeles, Cal.
Hart & Hegeman Mfg. Co., Electrical Goods—Hartford, Conn.
Scoville Mfg. Co., Brass Goods—Waterbury, Conn.
Thos. Day & Co., Gas and Electric Fixtures—San Francisco, Cal.
Wahle, Phillips Co., Gas and Electric Fixtures—New York City
New York & New Jersey Chandelier Co.—Jersey City, N. J.
Meyberg Company, Gas and Electric Fixtures—Los Angeles, Cal.
A. Lietz & Co., Scientific Instruments—San Francisco, Cal.
Ontario Lamp & Lantern Co.—Hamilton, Canada
Northern Electric & Mfg. Co.—Montreal, Canada
Western Electric Co., Electrical Goods—Chicago, Ill.
Eisenstadt Mfg. Co., Jewelry—St. Louis, Mo.
Imperial Mint—Japan
Clark & Coobs Co., Jewelry—Providence, R. I.
Stafford Ring Co., Jewelry—Providence, R. I.
New England Watch Co.—Waterbury, Conn.

New Haven Clock Co.—New Haven, Conn.
Seth Thomas Clock Co.—Thomaston, Conn.
Automatic Electric Co., Electrical Goods—Chicago, Ill.
Le Bolt & Co., Jewelers—Chicago, Ill.
U. S. Government—Washington, D. C.
Columbia University—New York
Schwaab Stamp & Seal Co., Stamps and Seals—Milwaukee, Wis.
Hardware Supply Co., Hardware—Grand Rapids, Mich.
Champion Brass Works, Gas and Elec. Fixtures—Coldwater, Mich.
Keeler Brass Co., Brass Goods—Grand Rapids, Mich.
Breeze Carburetor Co., Auto. Goods—Newark, N. J.
Wilkinson & Co., Clocks and Bronzes—Bklyn., N. Y.
Tiffany Studios, Art Glass, Bronzes—Corona, N. Y.
Mark Cross Co., Metal Harness Mountings—N. Y. C.
A. Burke & Co., Combs and Hair Ornaments—Leominster, Mass.
Herz & Co., Automobile Goods—New York City
Ideal Gas & Elec. Fixture Co.—Wichita, Kans.
J. & W. S. Granberry, Manufacturing Jewelers—Newark, N. J.
Dean Electric Co., Electrical Goods—Elyria, O.
Arrow Elec. Co., Electrical Goods—Hartford, Conn.
Varney Jewelry Co., Mfg. Jewelers—Wichita, Kans.
John Wanamaker, Department Store—Philadelphia, Pa.
National Electric Lamp Co.—Cleveland, O.
Silver State Plating Co.—Denver, Colo.
Capitol Electric Co., Electrical Goods—Denver, Colo.
Clarke Blade & Razor Co.—Newark, N. J.

Avoid the Danger of Clogging

With some sand blast machines, when they are left to stand for any length of time the flint packs down tight and if there is any dampness in the air at all, it absorbs it and becomes very hard and solid, so that when the machine is started up again, it is found that the flint will not feed.

It is then necessary to take the piping all apart in order to clean it out and renew the flint in order to get it in working order again.



THE
RELIEF
VALVE
on the
top of the
Sand Blast
Controls
the Flow
of Flint.

Can't Clog Pipe System

With our machines, however, all of this procedure is unnecessary as we have a little door at the bottom of the machine, and this can be opened and the sand loosened in a few moments.

Thus continuous service is assured the user.

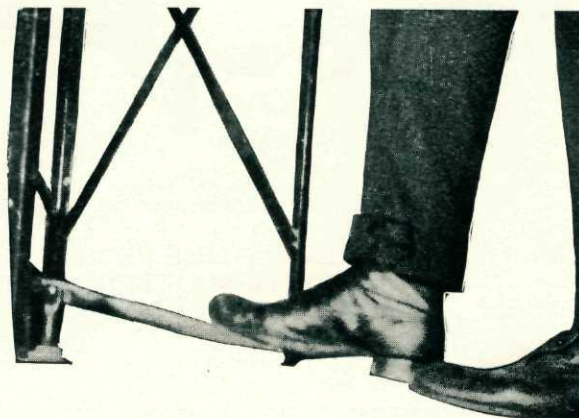
When it is required that the flint be removed, it is only necessary to loosen the little plug at the bottom of the machine, and it will run out in a very few minutes, when the plug is replaced and the machine refilled by throwing a new supply of flint through the upper door on the side of the machine.

Standard Iron Pipe Used

The piping system that we employ in the construction of these machines consists only of standard iron pipe and fittings, easily and cheaply procured locally should they require renewal at any time.

Replacement of these parts, however, is very rare and then only after a number of years of steady operation.

No long curved pipes that wear out rapidly by the friction of the driving abrasive. (Our short straight pipes are not filled with driving, cutting abrasive, but gently lifted flint—lifted by suction only. At the nozzle it receives the full driving power of the air to apply it directly onto the work. No lost motion or lost power here.)



THE FOOT LEVER that operates the above shown Relief Valve

SEND IN YOUR SAMPLES FOR
AN EFFECTIVE DEMONSTRATION

Long curved pipes so frequently seen on other makes of sand blast machines not only require a great deal of power for driving the flint through them, but they wear out rapidly and are expensive and difficult to replace when worn.

Standard iron pipe and fittings therefore mean cheapness to replace, easily procured anywhere when wanted—but best of all with our system of suction feeding to the nozzle, they do not wear out—not for many years.

Air Supply Is Very Important

The sand blasting process depends for its successful operation on a proper supply of air, not only in the matter of volume but also in the matter of pressure.

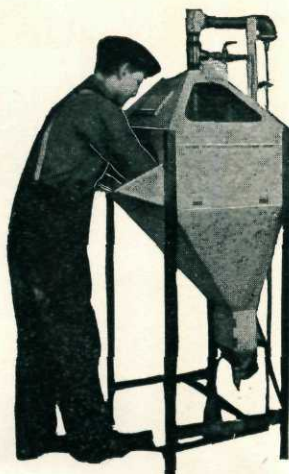
The pressure that we ordinarily use is about 5 lbs., but this may be varied by the foot lever according to the kind of work that is to be sand blasted.

For instance, very thin metal would buckle and curl if a higher pressure of air were used, whereas with iron or steel for some purposes a high pressure may be employed, but ordinarily most purposes are served best by using the air supply that we furnish with the outfits.

The Dust Is Enclosed

The sand blasting machines that we furnish are of the cabinet type and the hose type.

The cabinet type machine is preferred in factories because the operator can stand in front of the machine with his hands thrust through the arm hole cuffs and observe the work as it is being sand blasted under the nozzle, being held there in the operator's hand.



Any Boy or Girl Secures the Best Results at the First Try.

No Suction Fan Needed To Carry Off Dust

All the dust is confined inside of the cabinet and no exhaust system is required in order to carry the air from the cabinet.

As a rule a pipe is led from the top of the machine out of a window or up a flue and the pressure of air which is being pumped into the cabinet in order to operate the sand blast machine is of sufficient force to propel it out through this pipe without the aid of any additional outside force.

The flint being used in the machine gradually becomes pulverized in use and then the finer particles will float away with the air through this exhaust pipe and out of the window or up the flue.

In cases where the dust and excess air cannot be led out in this way, then it is customary to run a pipe into a barrel half filled with water and covered with burlap.

The air goes into the barrel depositing the dust into the water and the excess air filters out through the burlap.

Foot Controls Sand Flow

The cabinet type machine is so constructed that the feed of sand is controlled by the operator's foot. (See page 5.)

A pressure of the foot closes the valve on the machine and the abrasive feeds.

As long as the foot is kept on this lever the abrasive will continue to feed.

This foot control, feeding the abrasive as it does only while the article is underneath the stream at the nozzle, saves a great deal of wear and tear on the interior of the sand blast machine.

Releasing the air pressure off and on as the abrasive is fed it naturally reduces the amount of power consumed to operate the air pump.

No Dust Bothers the Operator

The operator may stand in front of it and work with comfort, not being bothered by any of the dust which is all contained inside of the cabinet.

He places his two hands through the arm hole cuffs holding the work under the nozzle and watches the progress of the work through the glass in front of the machine.

Suction and Pressure Carry the Flint

The abrasive strikes the work, then falls to the bottom of the machine and is drawn up through the pipe again by suction and is in this way used over and over again continuously.

As the air passes through the nozzle it creates a suction in this mixer lifting the abrasive from the hopper at the bottom of the machine and carrying it up to the nozzle.

Part of the main air supply passes down through the rear outside pipe to the bottom of the machine, loosening the supply of abrasive material so that the vacuum or suction on the inside pipe finds it very easy to lift it and carry it to the nozzle.

At the nozzle the main supply of air strikes this abrasive and projects it onto the work.

In using the machine with our air supply, the operator generally uses a pair of cloth gloves, although the blast will not readily injure the hands.

The Outfit You Will Need

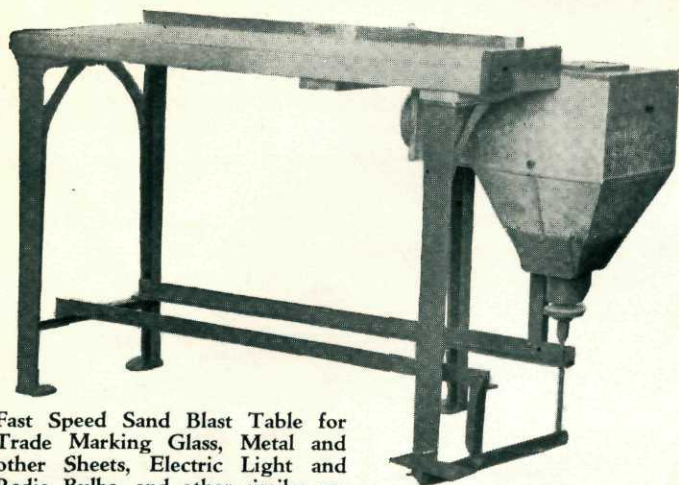
In using the machine for any given work, it is necessary not only to compare the article with the size of the machine, but also to consider the quantity of work to be done.

A large machine is most always to be preferred even though the work is very small, because the larger the machine, the more rapidly it will do the work.

Most concerns, even though the work is small, use the larger outfits in order to increase production.

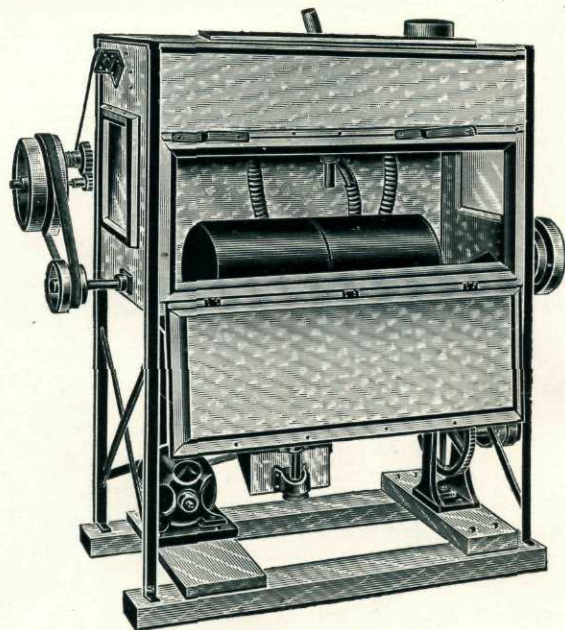
One of the smaller machines would no doubt in most cases do all classes of small work, but it being small, the work is necessarily slower than with the large machines.

Special Designs of Cabinet Sand Blasts



Fast Speed Sand Blast Table for Trade Marking Glass, Metal and other Sheets, Electric Light and Radio Bulbs, and other similar articles with stencils.

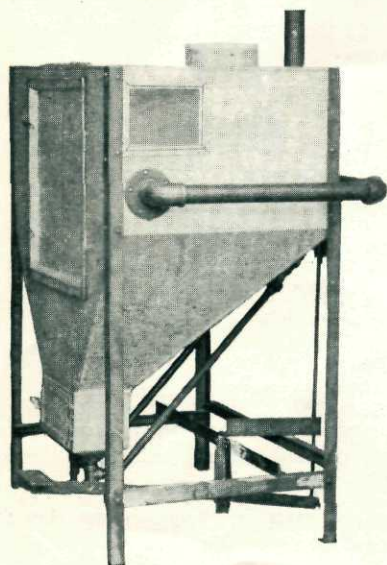
for
Metal
or Glass
Sheets,
Electric
Bulbs,
Bottles
and
Articles
of
Various
Shapes



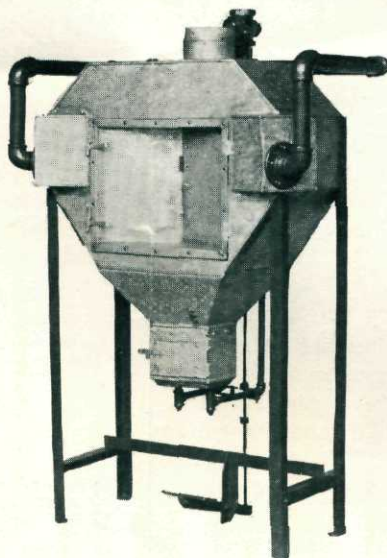
Leiman Bros. Cabinet SAND BLASTS

Continuous Feed for All Sorts of Cleaning and Finishing

Special Designs Made to Order
to Fit Special Conditions



Double Nozzle Machine with insertion slot for articles in front.



Double Nozzle Machine with insertion slot in front for sand blasting two sides at once.



Cabinet Sand Blast with single large opening for bottles, vases, stationery, etc.

All information throughout this folder, dimensions, prices, etc., are subject to change and we reserve the right to fill orders with altered or improved machines or machines of equal capabilities even though there may be differences in sizes, weight, prices, descriptions or other features.

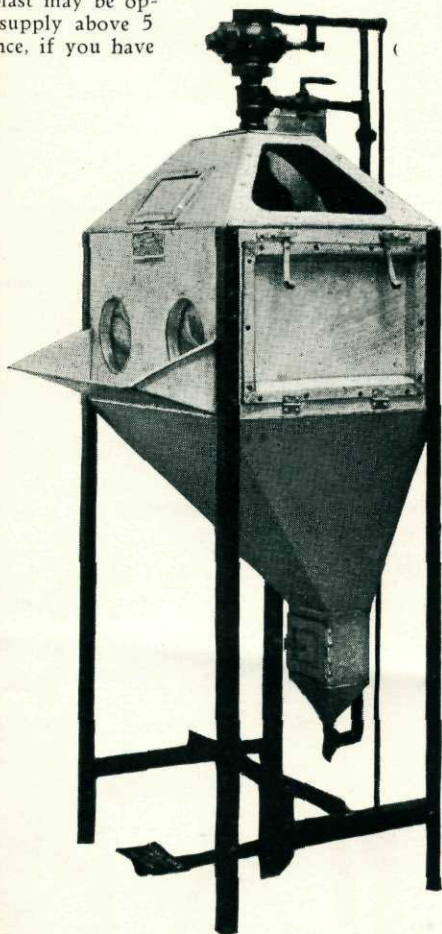
High Pressure Sand Blasts

SHOPS WITH THEIR OWN AIR SUPPLY
Above 5 lbs. Pressure
Use The **HIGH PRESSURE SAND BLAST**

This type of sand blast may be operated by any factory supply above 5 lbs. pressure. For instance, if you have 100 lbs. pressure on your line (or any other pressure) you must place a reducing valve on this line to reduce the pressure to that required to do your particular kind of sand blasting work. The lower the pressure that can actually do your work the better. Some work becomes distorted if the pressure is too high. We'll be glad to recommend the proper pressure to do your work.

This sand blast will then come to you ready to work on your air supply at the pressure recommended by us. But first of all—you must have enough air in cubic feet per minute (35 to 160 cubic feet per minute needed according to the size of the machine selected) in addition to the pressure. The pressure is one thing—the volume of air is still another. If you don't know—find out. Send us a copy of the nameplate on your air compressor.

An air compressor and air pressure reducing valve must be secured of other manufacturers.

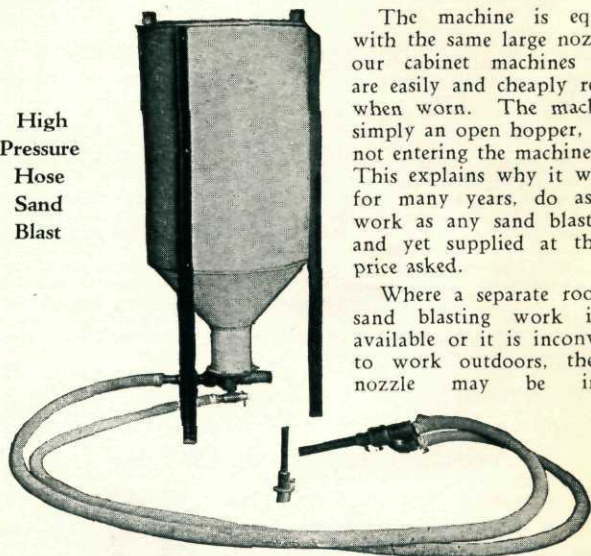


FOR LARGE BULKY WORK
USE THE **HOSE SAND BLAST**

PRICE

\$100⁰⁰

High
Pressure
Hose
Sand
Blast



The machine is equipped with the same large nozzles as our cabinet machines which are easily and cheaply replaced when worn. The machine is simply an open hopper, the air not entering the machine at all. This explains why it will last for many years, do as good work as any sand blast made and yet supplied at the low price asked.

Where a separate room for sand blasting work is not available or it is inconvenient to work outdoors, then the nozzle may be inserted

through an opening in a packing box or other large case and the work inside conveniently sand blasted without getting the flint all over the place.

The tank holds enough flint for several hours of operation. It is first dried, sifted and then thrown into the top where it passes through a wire screen, thus being resifted. You will require 80 cubic feet of air, the pressure to be in accordance with the nature of the work.

	No. A1	B1	1	2	Hose type
Cabinet, size, ins.	24x60	30x36	18x24	10x12	20x36
Door, each side, inches	10½x20	24x24	9½x14	4½x8½ This size has only one door	
Air required cubic feet per minute	160	160	80	35	80
Air pressure	Above 5 lbs. as required by nature of the work.				
Price of Machine as shown	\$190	\$165	\$140	\$90	\$100

Flint in 100 lb. bags, \$6.00. Crushed Steel in 100 lb. bags, \$10.00.

An air compressor and air pressure reducing valve must be secured of other manufacturers.

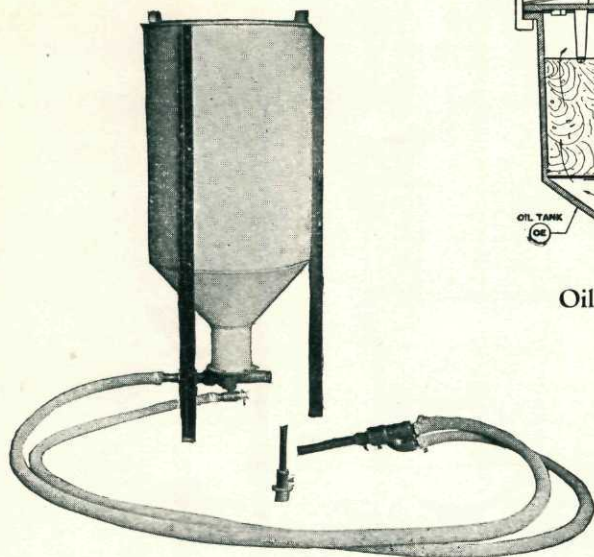
MANUFACTURERS IN EVERY LINE REDUCE THEIR COSTS, DO BETTER AND MORE PLEASING WORK WITH LEIMAN BROS.' PATENTED CONTINUOUS SAND BLAST

OTIS ELEVATORS
WESTON ELECTRICAL INSTRUMENTS
PENN. R. R.
WESTINGHOUSE
DURA MECHANICAL HARDWARE
CHANDLER NAMEPLATES
EDLUND BROOMS
READING HARDWARE
DE VILBISS SPRAYS
FORD INSTRUMENTS
GENERAL ELECTRIC
GENERAL RAILWAY SIGNALS
HERSCHEDE HALL CLOCKS
MARKEL LIGHTING FITMENTS

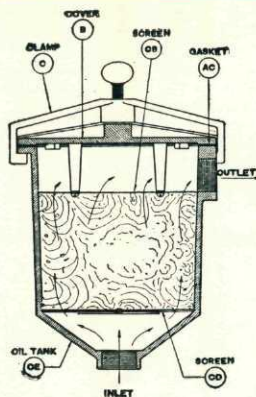
BRISTOL INSTRUMENTS
RELANCE METAL STAMPINGS
CALDWELL LIGHTING FIXTURES
CORNING GLASS
VEEDER COUNTERS
WHITEHEAD & HOAG
GENERAL PLATING CO.
QUALITY METAL FINISHING CO.
KELSEY WHEELS
PECK, STOW & WILCOX
DE LAVERGNE
EASTMAN KODAKS
JENNINGS BRONZES
COUTERIER BAND INSTRUMENTS
IMPERIAL BAND INSTRUMENTS

BENEDICT MFG. CO.
EDWARD MILLER & CO.
NATIONAL CASKETS
NEWARK GEARS
BASTIAN BROS. CO.
LAWRENCE AERO ENGINES
WINCHESTER ARMS
FRANKLIN DIE CASTINGS
SETH THOMAS CLOCKS
EDISON PHONOGRAPHS
VICTOR TALKING MACHINES
LUX CLOCKS
ATLANTIC AIRCRAFTS
NATIONAL LOCK WASHERS
EDISON STORAGE BATTERY

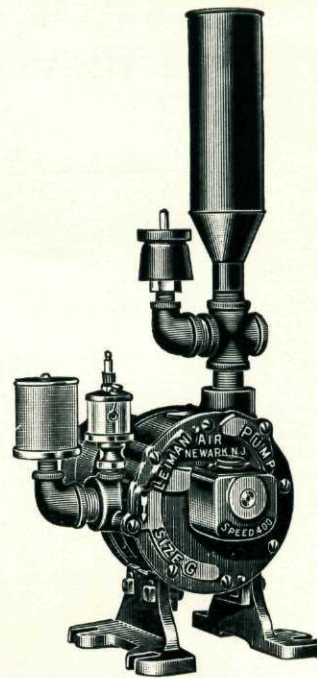
BECTION DICKINSON & CO.
AULD CO.
JENKINS GLASS
GRUEN WATCH CASES
WESTERN CLOCKS
METROPOLITAN MUSEUM OF ART
GREBE RADIOS
GOODRICH WATCH CASES
BOSTON PENCIL POINTER
ILLINOIS WATCH CASES
SPALDING SKATES
SYRACUSE UNIVERSITY
GRIPNSTICK CO.
SEGAL LOCKS



Hose Sand Blast



Oil Separator

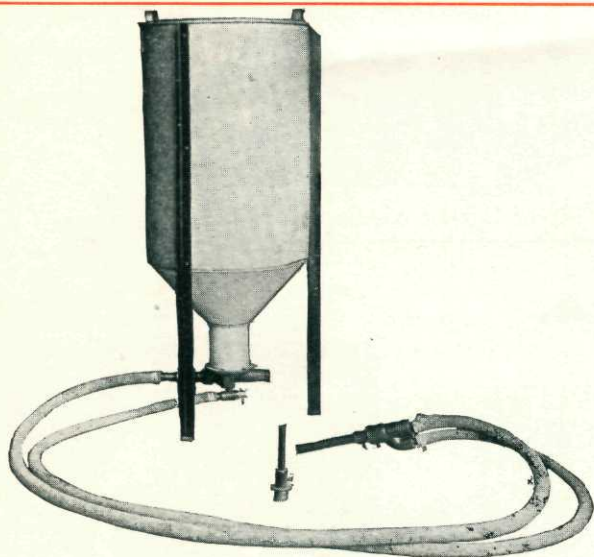


Air Supply for Belt Drive

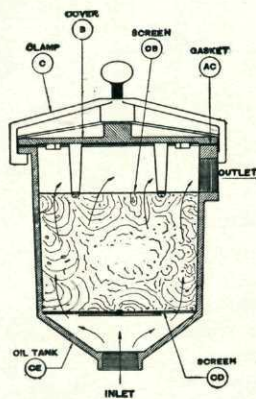
OUTFIT - "BLOHOS"

Hose Type SAND BLAST
with Belt Drive Air Supply

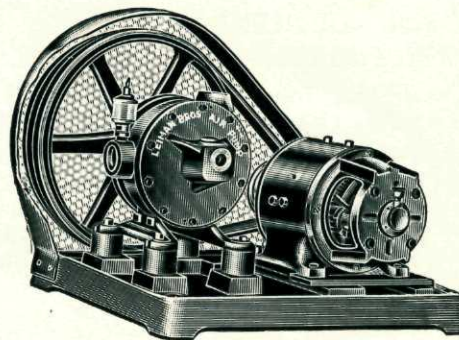
\$282.



Hose Sand Blast



Oil Separator



Motor Driven Air Supply

OUTFIT - "MOHOS"

Hose Type SAND BLAST with
Motor Drive Air Supply

\$603.

PRICES, Weights and Measures

Size of Hopper, Inches.....	20x36
Hold Flint or Crushed Steel, about.....	300 lbs.
Price—Hose Machine Only	\$100
Price—with Belt Drive Air Supply and Oil Separator—Outfit "BLOHOS"	\$282
Price—with Motor V-Belt Drive Air Supply and Oil Separator—Outfit "MOHOS".....	\$603
Price—Complete Motor V-Belt Drive Outfit— on Movable Platform—Outfit "COM- HOSMO"	\$698
H. P. of Motor Supplied.....	3 H. P.
Size of Air Supply Pulleys, Inches, L. & T.....	12x3 1/2
Floor Space—Complete Outfit, Inches.....	
Shipping Weight, Complete Outfit, Lbs.....	
Oil Separator Only	\$20
Flint in 100 Lb. Bags.....	\$6
Crushed Steel in 100 Lb. Bags	\$10
Single Pulley on Air Supply for Motor Drive, Optional, Inches	22

OUTFIT
"COMHOSMO"
\$ 698.



**COMPLETE MOTOR V-BELT DRIVEN
HOSE TYPE SAND BLAST OUTFIT**
on movable platform—all ready to operate.

FOR WORK TOO LARGE TO BE HANDLED INSIDE THE CABINET SAND BLAST

The hose type machine is used for cleaning, frosting and mat finishing with our rotary air pumps and for the same class of work as the cabinet machines.

These large pieces of work may be rested against a wall, chair or other support in a room, out of doors or inside a wood cabinet of any kind.

The operator usually uses cloth gloves and eye protectors or a face protector of whatever kind may be available. The machine holds enough flint or crushed steel for several hours continuous work. It can be recovered from the floor and thrown back into the machine to use over again.

The top of the hopper has a screen for preventing foreign particles from passing into the hopper with the flint. The air pump and sand blast must be on the same approximate level for satisfactory work.

TERMS—DOMESTIC ORDERS

Net Cash 30 Days—New York Exchange—To all having an open account with us, a satisfactory commercial rating or furnishing us with at least three satisfactory references.

To all others 25% cash with order; balance C. O. D. Minimum deposit must equal carrying charges, packing and handling expense.

Where specific shipping instructions are not given with order we use our own best judgment.

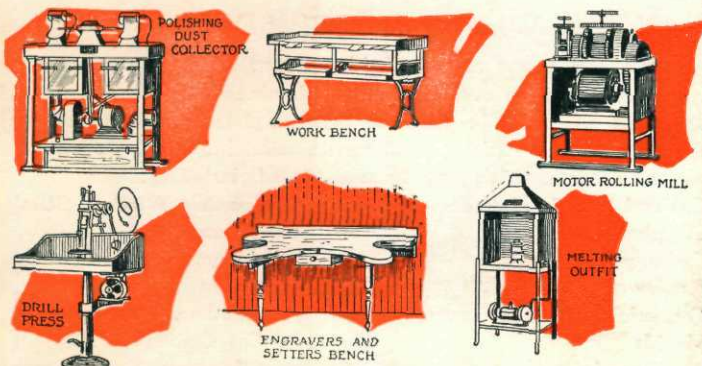
All agreements are contingent upon strikes, accidents or delays of any kind, unavoidable or beyond our control. All goods sold F. O. B. Newark, N. J., or point of shipment. Electric motors furnished are for either direct or alternating current 60 cycles, single phase, 110 or 220 volts unless otherwise noted. Be sure to specify the current you intend to use. Contracts and orders subject to acceptance at Newark works.

When we take a clear receipt from the Transportation Co., indicating that we have delivered the goods to them in first class condition, our responsibility has been fulfilled. If you give the Transportation Co. a clear receipt for damaged goods, you do so at your own risk. If goods are broken, a description of the damage should be endorsed on your freight bill and acknowledged by Transportation Co. You can then collect full value of damage from them.

All information, dimensions, prices, etc., are subject to change and we reserve the right to fill orders with altered or improved machines or machines of equal capabilities even though there may be differences in sizes, weight, prices, descriptions or other features.

TERMS—FOREIGN ORDERS

Cash with order New York Exchange with an extra charge for boxing of 10% and with transportation and insurance charges added. F. O. B., Newark, N. J. or Free Delivery to your New York Shipping Agent.



MACHINERY and Shop Equipment

For
JEWELERS
SILVERSMITHS
DENTAL LABORATORIES
NOVELTY MAKERS
ARTISANS IN METAL, GLASS,
CELLULOID, BAKELITE and
COMPOSITIONS
COLLEGES
MANUAL TRAINING SCHOOLS

COMPLETE SELF-CONTAINED MOTOR-DRIVEN OUTFITS FOR

Sandblasting	Soldering	Crushing
Polishing	Annealing	Fuel Oil Burning
Dust Collecting	Enameling	Burnishing
Drilling	Hardening	Scratch Brushing
Reaming	Turning	Stamping
Brazing	Spinning	Forming and
Cold Metal Rolling	Lapidary Work	other operations
Wire Drawing	Glass Grinding	in light metal
Melting	Forging	work.
	Refining	

for flat, circular and tubular grinding, drilling, ream-
ing, etc., in scientific glassware, bottles, containers, etc.

FULL INFORMATION ON REQUEST

LEIMAN BROS., Inc.

146 to 178 Christie St., Newark, N. J.
147 to 179

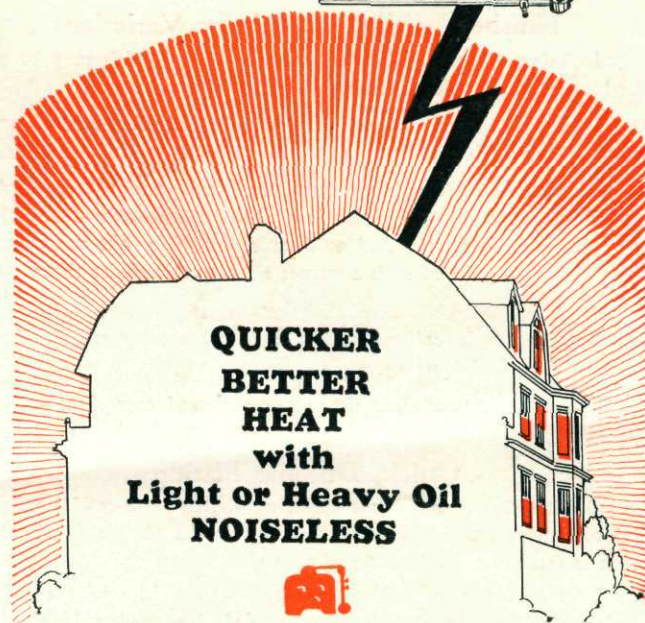
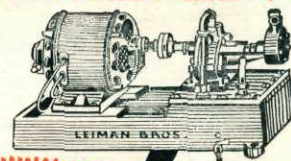
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sure but that's what makes them safer than coal—
and they contain much more heat—CHEAPER TOO.

LEIMAN BROS. OIL BURNING OUTFITS
are made especially for this work.

(Send the name of your heating contractor)

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INSTALLATIONS
IN ALL SORTS
OF
BUILDINGS